APPENDIX C

NOTATION

Symbol	Term	Units
A	Area covered by armor units	ft^2
B	Crest width	ft
C_r	Coefficient of wave reflection	----
C_t	Transmission coefficient	----
C_u	Undrained cohesive strength of soil	lb/ft^2
d	Water depth	ft
d_1	Submergence of orifices	ft
d/L	Relative depth	----
d_b	Depth of breaking	ft
D	Pile diameter	ft
D_t	Diameter of scrap tire	ft
e	Distance load is applied above the bottom or efficiency	ft ----
F	Force	lb
F_s	Factor of safety	----
F_t	Lateral mooring line peakload or total force	lb lb
$F/\gamma W^2$	Mooring force parameter	----
g	Acceleration of gravity	ft/sec^2
GCLWD	Gulf Coast Low-Water Datum	ft
h	Thickness	ft
H_b	Breaker height	ft
h_o	Height of orbit center above stillwater level	ft

NOTATION

Symbol	Term	Units
hp	Horsepower	ft-lb/sec
H	Design wave height	ft
$H_{1/10}$	Average of highest 10 percent of waves	ft
$H_{1/100}$	Average of highest 1 percent of waves	ft
H_{avg}	Average of all waves	ft
H_b	Breaker wave height	ft
H_i	Incident wave height	ft
H/L	Wave steepness	---
H_{max}	Expected maximum in 500 waves	ft
H_o	Rise of mean level of clapotis formed due to reflecting wave	ft
H_s or $H_{1/3}$	Significant wave height	ft
H_t	Transmitted wave height	ft
i	Maximum trough level	ft
IGLD	International Great Lakes Datum	ft
k_Δ	Layer thickness coefficient	---
K_D	Stability coefficient	---
K_p	Rankine's coefficient of passive earth pressure	---
ℓ	Distance pile penetrates	ft
L	Wavelength	ft
L/W	Ratio of wavelength to breakwater width	---
m	Nearshore slope	---
M	Moment	ft-lb

NOTATION

Symbol	Term	Units
MGL	Mean Gulf level	ft
MLG	Mean low Gulf	ft
MLL	Mean lake level	ft
MLLW	Mean lower low water	ft
mlw	Mean low water	ft
n	Number of layers of armor units	---
N_a	Number of armor units	---
p	Pressure	lb/ft^2
P	Porosity	---
P_i	Power of incident wave train	ft-lb/sec
P_j	Power of hydraulic jets	ft-lb/sec
P_m	Peak impact pressure	lb/ft^2
P_t	Power of transmitted wave train	ft-lb/sec
q	Air discharge	ft^3/sec
r	Thickness of cover or underlayer	ft
R	Resultant force	lb
S_a	Specific gravity of armor unit	lb/ft^3
SWL	Still water level	ft
T	Wave period	sec
U	Velocity of current	ft/sec
W	Width	ft
W_a	Weight of an individual armor unit	lb
W/L	Breakwater width-to-wavelength ratio	---

NOTATION

Symbol	Term	Units
W_t	Design anchor weight	lb
x	Wave reflection coefficient	---
y	Draft	ft
y/d	Relative draft	---
α	Angle of structure slope measured from horizontal	deg
β	Crest width	ft
γ	Unit weight	lb/ft^3
γ_a	Unit weight of armor unit	lb/ft^3
γ_c	Unit weight of concrete in air	lb/ft^3
γ_s	Unit weight of soil	lb/ft^3
γ_w	Unit weight of water	lb/ft^3
μ	Coefficient of soil static friction	---
ρ	Mass density of water	$lb\text{-}sec^2/ft^4$
Φ	Dimensionless horsepower ratio	---
ϕ	Internal friction of sand	---